

VIBRATION DAMPING FOR A ROTATING SHAFT

ABSTRACT

The invention provides damping techniques for a rotating shaft. The rotating shaft is supported by rotary bearings. The damping techniques control vibration of the rotating shaft by creating a fluid film in a support element of the rotating shaft. For example, the fluid film may be created between a housing and the rotary bearings. The fluid may be supplied by a pump, and the supply amount of fluid to create the fluid film is relative to the rotational velocity of the shaft. Vibration can be prevented for every operational rotational velocity of the rotating shaft. In some embodiments, the rotating shaft may be powered by or part of an electric motor for a vehicle.